We Claim:

(1)

A computer motherboard architecture comprising:

A computer motherboard possessing typical components including a CPU, a data bus, a

5   power interface, and an audio input data pathway, said audio input data pathway

connecting the audio input of the motherboard to the CPU;

A DSP chip in the audio input data pathway;

A PCI-to-DSP bridge interfacing between said DSP chip and the bus on the computer

motherboard;

10   A memory in electrical connection to said DSP chip;

A command and control speech engine residing in said memory of said DSP chip.

(2)

A computer motherboard architecture according to claim 1 wherein said DSP serves as

the preprocessor of all speech input prior to execution of instructions by the CPU to

15   process the speech input.

(3)

A computer motherboard architecture according to claim 1 wherein said DSP is operable

to be dynamically set by a user in either a continuous speech mode or a command and

control mode.

20   (4)

A computer architecture according to claim 1 wherein said audio input data pathway

comprises a microphone input, means for digitizing an audio input in said audio input

data pathway, a DSP chip, and a PCI-to-DSP bridge chip communicating with said bus.

(5)

A computer motherboard according to claim 1 wherein said DSP chip is operable to

convert said audio input into phonemes.

(6)

5   A computer architecture according to claim 1 wherein said speech engine includes a

vocabulary of speech terms which are associated with specific instructions or contextual

environments.

(7)

A computer architecture according to claim 6 wherein said vocabulary of speech terms

10   resides in said memory of said DSP chip.

(8)

A computer architecture according to claim 6 wherein said vocabulary of speech terms is

able to be defined by a user, either in a static or active mode.

(9)

A computer architecture according to claim 1 wherein said vocabulary of speech terms is

15   refreshed by the CPU based upon the context of an application running on a host

processor.

(10)

A computer architecture according to claim 1 wherein said DSP chip is operable to

20   perform preprocessing for a software-based speech engine residing elsewhere on a

computer.

(11)

A computer architecture according to claim 1 wherein said DSP chip is operable to perform menu selection such as mobile phone audio functions comprising voice activated dialing, voice control, noise cancellation, and speech to signal conversion.

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(12)

A computer architecture according to claim 1 wherein said DSP chip is operable to perform noise cancellation functions.

(13)

A computer architecture according to claim 1 wherein said DSP chip is operable to

10   function in a command and control speech mode.

(14)

A computer architecture according to claim 1 wherein said DSP chip is operable to function in a continuous speech mode.

(15)

15   A computer architecture according to claim 1 wherein said DSP chip is operable to function in a mobile phone mode.

(16)

A computer architecture according to claim 1 wherein said DSP is operable to function in a language translation mode.

20

(17)

A computer architecture according to claim 1 wherein said computer motherboard is a user-supported computer motherboard.

(18)

A computer architecture according to claim 17 wherein said user-supported computer is a voice-activated user-supported computer.

(19)

5   A computer architecture according to claim 1 wherein said computer motherboard is a portable computer motherboard.

(20)

A computer architecture according to claim 1 wherein said computer motherboard is a personal digital assistant motherboard.

10   (21)

A computer architecture according to claim 1 wherein said computer motherboard is a desktop computer motherboard.

(22)

A computer architecture according to claim 1 wherein said computer motherboard is a

15   hand held computer motherboard.

(23)

A computer architecture according to claim 1 wherein said computer motherboard is a video gaming system computer motherboard.

(24)

20   A computer architecture according to claim 1 wherein said computer motherboard is a computing and communications device computer motherboard.

(25)

A computer system of claim 1 wherein said computer motherboard is a component of a member selected from the group consisting of user supported computers, laptop computers, desktop computers, portable computers and mixtures thereof.

5

(26)

A computer system according to claim 1 wherein said computer motherboard is a component of a member selected from the group consisting of cell telephones, wireless telephones, portable computers, communication means both hard wired and wireless and mixtures thereof.

10

(27)

A method of processing speech in a computer, the method comprising:

Designating a command and control processing mode;

Designating a continuous processing mode;

Placing a DSP chip on a motherboard in the audio input data pathway;

15   Placing a DSP-to-PCI bridge chip or equivalent circuitry in series after the DSP chip for communication with said computer's PCI bus;

Receiving a speech input through said audio input data pathway;

If in said command and control processing mode, said DSP chip converting said speech input to phonemes and matching said phonemes with commands stored in said DSP

20   resident memory to create a CPU instruction;

If in said continuous mode, said DSP chip converting said speech input into phonemes;

Passing off said instruction or said phonemes to a CPU by way of said DSP-to-PCI bridge chip or equivalent path on said motherboard.

25

(28)

A computer motherboard architecture optimized for processing speech, said motherboard

comprising:

A microprocessor;

5   A bus;

A DSP chip;

A DSP-to-PCI bridge chip in series with said DSP chip for communicating output from

the DSP to said microprocessor;

A memory in said DSP chip or accessible to said chip;

10   A command and control speech engine in said DSP chip's memory.

(29)

A computer motherboard architecture optimized for speech processing, said architecture

comprising:

Microprocessor means;

15   A bus;

Digital signal processing means;

Means for communication between said digital signal processing means and said

microprocessor means;

Memory means accessible to said digital signal processing means for storing a command

20   and control speech recognition engine;

Control means for designating by the user either command and control mode or a

continuous speech mode for said digital signal processing means;

And speech input and digitization means.

(30)

A computer motherboard architecture according to claim 29 wherein said control means comprises a computer software program residing in a storage device in electrical communication with said motherboard which is operable to be controlled by a user.